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The ferns and flowering plants of Nantucket—XIII

Eugene P. Bicknell

CLETHRACEAE

Clethra alnifolia L.

Abundant in low thickets and about the borders of ponds and pools. Flower buds in close green spikes July 14, 1912; some flowers remaining Sept. 14, 1907.

PYROLACEAE

Pyrola americana Sweet.

Not common, but widely scattered on the island in dry thickets, less often in open ground. Racemes of close buds June 15, 1911; precocious flowers in an open sunny spot June 23, 1910; first flowers July 2, 1912.

Pyrola chlorantha Sw.

Found here and there in scattered colonies through the pine woods near the County Fair grounds and in open ground beyond towards the north, also still farther on among pines along the Wauwinet road; a few stunted plants among bearberry in open ground on Saul's Hills. Flower buds June 5, 1911; in full flower June 17, 1908, June 18, 1910; past flowering July 9, 1912.

Chimaphila maculata (L.) Pursh.

In pine woodland; common and of large size east of Hummock Pond and found locally eastward to the County Fair grounds. Flower buds ready to open July 9, 1912.

Chimaphila umbellata (L.) Nutt.

Not more common than the preceding and often growing with it but of freer range and occasionally met with on the open commons, as in the North Pasture and above the "Cliff" near "Monsalvat." Just in flower July 9, 1912.

MONOTROPACEAE

MONOTROPA UNIFLORA L.

Frequent in pine woodland; under beeches in Quaise; occasional on the open commons pushing up through the thick carpeting of bearberry. Not seen farther east than Quaise, nor west of Hummock Pond; observed in full flower from early August until late in September. On Marthas Vineyard I have seen it in flower as early as June 28. Plant often tinged with clear pink.

* HYPOPITYS AMERICANA (DC.) Small.

Pine woods towards Surfside, Sept. 8, 1904, passing out of bloom. Determined by Doctor Small. Plant pale and yellowish throughout, thinly short-pubescent, the stigma not bearded. I do not myself well understand this species, never having met with it in perfect flowering condition, but the characters adduced by Doctor Small appear to be distinctive.

HYPOPITYS LANUGINOSA (Michx.) Nutt.

Common locally among the pines east of Hummock Pond; Miacomet Pines; pine grove on Surfside road. Pale yellowish throughout, or the stems, especially basally, tinged with light yellowish pink; lanate-pubescent, the stigma retrorse-bearded. In full flower Aug. 9, 1906, the largest plants 4 dm. high; mostly past flowering Sept. 16, 1907. Inflorescence occasionally compound. The flowering period appears to be considerably earlier than that of *H. americana.*

Both of these plants occur in pine woods on Marthas Vineyard where, also, in deciduous woodland, there is yet a third species, smaller and later-flowering, and conspicuous by reason of its vivid red color, the shade varying from clear pink to carmine and almost scarlet. Other characters combine with size and color to mark it a distinct species. Its pubescence is short and close and the stigma densely white-bearded; its capsule is small, 4–5 mm. long, and ovoid to nearly globose. Its late flowering period is noteworthy. On Chappaquiddick Island, as late in the season as October 5, 1912, it was only just coming into bloom. On Long Island, where *H. lanuginosa* blooms in July and early in August, this red species is not seen at all until about the middle of September. I have not met with it on Nantucket, but it would seem to be altogether probable that it is to be found there late in the season.

Specimens from Chappaquiddick Island, Marthas Vineyard, Oct. 5, 1912, have been deposited as the type in the herbarium of the New York Botanical Garden named **Hypopitys insignata** sp. nov.

ERICACEAE

AZALEA VISCOSA L.

Everywhere in swamps and bogs. First flowers June 17, 1910, June 18, 1908; mostly not yet in bloom June 17, 1912, generally in bloom July 10; some flowers in mid-September, 1907.

In a number of instances it was observed that corollas with long tube and short limb were pure white and that those with shorter tube and broad limb were often deeply tinged with pink. The pink-flowered shrubs seemed to be, as a rule, earlier flowering and, at least in the most pronounced examples, had rather coarsely bristly-ciliate pedicels, and acute leaves, somewhat pale beneath, thus corresponding with Pursh's description of his *Azalea hispida*.

AZALEA NITIDA Pursh.

Occasional or frequent in bogs and wet thickets; Polpis, Quaise, Tom Never's swamp, below the "Cliff." In full flower Aug. 4, 1906. Leaves numerous and crowded, small, 2–2.5 cm. long and 5–10 mm. wide, coriaceous and very acute, dark green and shining on both sides, especially above. A very different shrub in conformation and aspect from the more openly branched and larger leaved *A. viscosa*, yet quite obviously intergrading with it.

* AZALEA GLAUCA Lam. Encyc. 1: 340. 1783.

Frequent; Quaise, Polpis, Tom Never's Swamp, Millbrook Swamp, Trot's Swamp. A beautiful and always strikingly individualized shrub. Neither on Nantucket nor on Long Island have I seen any convincing evidence that it blends with *A. viscosa*, although it may well be true that interbreeding tends to keep it within the organic influence of that species.

KALMIA LATIFOLIA L.

Mrs. Owen's catalogue preserves the record of "a single dwarf specimen not more than a foot high" found by Mr. Dame on the plains opposite Bloomingdale.

KALMIA ANGUSTIFOLIA L.

Common in moist levels about sphagnum bogs and also entering freely into the low woody growth of dry level tracts in low grounds or on the moorland. First flowers June 7, 1908; June 10, 1911, and generally coming into bloom June 15; June 12, 1909; still in flower July 13, 1912. Not rarely a few flowers open in the autumn, even late in September.

XOLISMA LIGUSTRINA (L.) Britton.

Abundant in low grounds either in moist or in drier soils. First flowers July 1, 1912, in full flower generally by July 4.

This is one of the strong and rigidly branched shrubs that especially combine with the high bush blueberry to give resistance and impenetrability to the Nantucket swampy thickets. It mixes also with the Azaleas, Aronias and Amelanchiers, *Clethra alnifolia*, *Ilex fastigiata*, and other less abundant species that make up the dense thickety growths that invest many of the ponds and pools.

CHAMAEDAPHNE CALYCULATA (L.) Moench.

Locally common in very wet bogs. Still in flower May 31, 1909; only dried corollas remaining June 3, 1911.

EPIGAEA REPENS L.

On Nantucket, contrary to its usual habits, the trailing arbutus favors less the seclusion of woodland or pine groves than the exposure of open barrens where the sun beats upon it all through the season contracting its growth into little compact mats flattened upon the sandy soil. It even grows tenaciously on the bare tops of the rolling hills, and is common over the plains on the south side of the island, in some places extending quite to the edge of the low bank along the ocean shore.

I have never been on Nantucket early enough in the spring to see it in bloom, but in the deep shade of the Miacomet pines, on June 3, 1909, the dried corollas were not yet all fallen away.

GAULTHERIA PROCUMBENS L.

Locally very common on heaths and dry level tracts among low trees and shrubbery, sometimes in moister soil at the borders of sphagnum bogs. Ripe fruit in September, 1899, and fruit still persistent June 1, 1909.

ARCTOSTAPHYLOS UVA-URSI (L.) Spreng.

The bearberry is probably the most abundant flowering plant on Nantucket, where it spreads a thick evergreen carpet over unnumbered acres of the rolling commons and of hill and plain. Throughout wide tracts not a point of ground is left uncovered by its even mantle of firm shining foliage, which makes a clean and springy footway, and on slopes and hillsides a very slippery one. The long trailing stems and branches weave so strong in interlacement that many kinds of plants that would thrive well upon the same soil are either choked away or find no spot whereon to begin their growth. Nevertheless the close abundance of the bearberry often gives good protection to many another plant in a most unexpected way. Beneath its low covering the soil is ever in shade and remains cool and damp under the hottest sun. By this are some woodland species afforded conditions which enable them to exist far out on the dry barrens, and growing up out of the bearberry comes many an unexpected thing. The Indian pipe is occasionally to be seen pushing up through its close fretwork as well as *Pyrola americana*, *Pyrola chlorantha*, *Chimaphila umbellata*, *Cypripedium acaule*, probably all plants of acid soils, and *Vagnera stellata*, *Linum intercursum*, *Grossularia hirtella*, and other species, including some of the grasses natural to the damp soil of low grounds.

The bearberry was everywhere in full flower June 1, 1909. In other years it had passed out of bloom either before or soon after the middle of the month; green fruit June 7, 1908, and some becoming red June 18; in 1912 the fruit had only begun to redden June 30; abundant fruit in September, 1899.

CALLUNA VULGARIS (L.) Salisb.

The late lamented Mrs. Owen* in a most interesting paper, one of the latest from her always agreeable pen, on "The Adventive Heaths of Nantucket" (Rhodora, **10**: 173–179. O 1908) has given us a history of the three heaths that are found growing wild on the island. We are told that the *Calluna*, or ling, was first found on Nantucket in 1880 by Mr. Lawrence Coffin, a single plant on the open commons, which persisted for many years and finally disappeared. This is the only plant of *Calluna* ever found on the island whose presence there remained to Mrs. Owen altogether unexplained. At the place where in this day the heather principally grows it came in with trees imported from Europe by Mr. Henry Coffin in 1877 and subsequent years, and was first found by Mr. Lawrence Coffin in 1886, then well established. Since that time it has been sought to naturalize the heather on the island by several persons who have scattered the imported seed and even set out young plants.

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* Maria Louisa (Tallant) Owen. Born on Nantucket in 1825. Died June 8, 1913.

The earliest record known to me of *Calluna vulgaris* on Nantucket, as well as of the cross-leaved heath, *Erica Tetralix*, was published by Mr. O. R. Willis in the Bulletin of the Torrey Botanical Club for December, 1886; the plants had been found the same year by Mrs. Charlotte E. Pearson in a tract planted with larches imported from Europe.

Mrs. Owen has mentioned half a dozen localities other than this now well-known one, where this heather has been found, at three of which, two of them far out on the commons, it is not known to have been planted. I, myself, have met with it at five localities, all of them mentioned by Mrs. Owen except perhaps one on the plains in the direction of the old Kimball farm where, on June 3, 1909, a solitary cluster was growing which measured 28 inches in greatest diameter.

At the place where this heather was first introduced I came upon it quite accidentally on Aug. 9, 1906, when, with the cross-leaved heath, it was in full flower. Since that time it has continued to spread, and of late years has become well naturalized in scattered growth among the pines. In 1908 the main growth covered a general area of 17 by 14 paces, made up of straggling groups, small separate clusters, and several masses of considerable size. In 1911 it seemed to be more abundant than I had seen it at any time before, but in July of the following year, after the intervening cold but not snowy winter, much of it had been winter-killed, at least its upper parts. It showed no signs of flowering on July 3, 1909, nor on July 17, 1908; on July 26, 1910, no buds could be found on the wild plant but one in cultivation in a garden in the town bore long racemes of pink buds. The wild plant was in full flower August 9, 1906, August 10, 1895 (F. G. F), and bore some fresh flowers September 18, 1897.

I have elsewhere reported* that the common heather, so well established on Nantucket at the locality where it was first introduced, is not the typical glabrate form of the species but is the pubescent form, var. *pubescens* Koch. As I have observed it, this is a neater appearing and more attractive plant than the glabrous type and by contrast of appearance a very different one. The heather found on Marthas Vineyard is, on the contrary, the typical glabrate plant. It is an interesting fact that this form occurs on Nantucket also, but at a locality remote from that where the pubescent form is found. The single cluster already referred to as growing not very far from the Kimball farm was of the glabrate form, and an old specimen in the Columbia University herbarium bearing no other record than "Nantucket" is the same. Another old specimen in this herbarium, presumably of the same period, is of the pubescent form. It was collected by Mrs. Pearson twenty-seven years ago, in 1886, and was from the same locality where the pubescent plant is found today. The occurrence of both forms on Nantucket at the period of its early discovery there would appear to indicate that the island had received this addition to its flora not alone from its chance introduction with trees imported from Europe but also through some other channel which remains quite unknown.

ERICA TETRALIX L.

It is related of the cross-leaved heath by Mrs. Owen (loc. cit.) that it, also, was introduced with the imported pines that brought the *Calluna* and was first observed on Nantucket in 1884 by Miss Susan Coffin. Mr. Willis, in his note already cited, has recorded that, in 1886, Mr. Henry Coffin made a thorough search of the tract where this heath had been found the same year by Mrs. Pearson and discovered twenty patches of the *Erica*, which "was as abundant among the firs [pines] brought from Illinois as among the larches from England." The cross-leaved heath appears to have been found on Nantucket nowhere else than at this locality. In 1911 it was fairly common there, well scattered among the clusters of *Calluna* and evidently perfectly naturalized. The following season, like the *Calluna*, much of it had been winter-killed and no flowers were to be found as late as July 12. In 1909 no flower buds had appeared by June 12, but some of the stem tips bore little terminal rosettes showing where the buds were coming; buds visible June 11, 1911; first flowers June 17, 1908; in full flower August 9, 1906, August 10, 1895 (F. G. F.); a single cluster of pink buds September 18, 1907.

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* Rhodora, 15: 189–192. N 1913.

ERICA CINERA L.

In Alphonso Woods's "Botanist and Florist," edition of 1871, it is recorded that this heath, the bell heather, was discovered on Nantucket in June 1868, by Mrs. E. E. Atwater. Mrs. Owen's paper, already cited, tells us that only a solitary plant was found, that it was found again in 1871, and was rediscovered independently by Mrs. William A. Spinney in 1878. It lived until 1902 or 1903. Shortly before this a second plant was found not far off, and a year or two after, yet a third plant was discovered nearby. These facts, taken by themselves, would seem to make it perfectly obvious that the two later plants had been derived from the older one by self-sown seed. But the evidence gathered by Mrs. Owen puts this in some doubt, for it is known that heather plants of some kind were at one time set out somewhere in the same part of the island where these plants were found.

Mr. Willis in his note, published in 1886* reported that Mrs. Charlotte C. Pearson in September of that year sent him a specimen of *Erica cinerea* from a new locality and stated that the plant had been found in four different places on the island far apart, and that she had found it when a child in a locality far from dwellings and where trees had never been known to grow.

On June 23, 1911, Mr. John Appleton took me to the locality where this heath is said to have grown since 1868. There we found one bushy plant covered with flower buds, some of them pink and on the point of opening. The spot was among an open growth of pines, part of an extensive and much denser tract, and the plant was well concealed from every side a few yards away. Many a time I had passed close to it without making the discovery. The year after this it had disappeared, and I was told that, in order to protect it from extermination by visitors it had been transplanted to private grounds where, at the middle of July, it was beginning to show signs of life. I have to thank Mrs. Albertson for a fragment of this heather collected July 6, 1909, then just in flower. In flower September 3, 1902, F. G. Floyd.

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* Loc. cit.

VACCINIACEAE

GAYLUSSACIA BACCATA (Wang.) C. Koch.

Abundant in dry thickets and open ground. In full flower May 30, 1909, June 15, 1911; green fruit June 18, 1910; first ripe fruit July 14, 1912.

Although a low and inconspicuous shrub this huckleberry has much to do with giving character to parts of the Nantucket landscape. Here it is less a plant of woods and thickets than of open ground, where its habit is to mass itself into extensive growths, for the most part unmixed with any other species. Thus outspread along the hills in distant view its foliage blends into breadths of brassy or golden green in effective contrast with the more sombre tones of color spread in broad patchwork about it. The gray green of scrub-oak thickets, the dark olive of the widespread bearberry, the varied neutral shades of other low-growing vegetation all go to make up a composition in which the livelier green of this huckleberry gives the stronger contrasts and dominating note.

GAYLUSSACIA FRONDOSA (L.) T. & G.

Locally common, mainly on the eastern side of the island, keeping in and about thickets and never straying into the open like the preceding. Not yet in flower June 12, 1909; first flowers June 10, 1911; in full bloom June 20, 1910; some flowers remaining July 4, 1912. On Chappaquiddick Island I have found it bearing abundant fruit in the second week of October.

GAYLUSSACIA DUMOSA (Andr.) T. & G.

Locally common in low grounds on the eastern side of the island; cranberry bogs about Long Pond on the western side. In full flower June 11, 1908, in Quaise; just in flower June 22, 1910, Long Pond; July 2, 1912, Tom Never's Swamp; abundant fruit Sept. 15, 1907.

The Nantucket plant, or much of it, is typical of the form called by Doctor Fernald var. *Bigeloviana*.

VACCINIUM VACILLANS Kalm.

Common among the low woody growth of hillsides and dry open places. In full flower June 5, 1911; still some flowers June 29, 1908, June 30, 1910; ripe fruit July 11, 1912.

The common form has the leaves either entire or serrulate, and nearly or quite glabrous, varying from pale and glaucous to merely glaucescent, the branches often slightly puberulent. A taller form with larger and somewhat pubescent, pointed leaves, and soft pubescent branchlets, may be a cross with *Vaccinium corymbosum.* It was found only in a bushy tract on the plains west of the railroad at about the third milestone.

VACCINIUM ANGUSTIFOLIUM Ait.

V. pennsylvanicum Lam., not Mill.

Abundant in dry open places and among open growths of low shrubbery. In full flower May 30, 1909, June 3, 1911; not many flowers left June 7, 1908; first ripe fruit June 7, 1912.

Diminutive forms, sometimes only a few inches high, have very small and crowded oblong-lanceolate leaves narrowly tapering to the base and the very acute apex. Other forms have larger oval or elliptic less pointed leaves. The Nantucket plant seems to be never strictly glabrous, the branchlets and the midvein of the leaf, at least on its upper side, showing more or less pubescence.

Growing with the common form near Tom Never's Head and west of the railroad at about the third milestone occurs var. *nigrum* Wood, having dark green shining leaves and large black fruit either wholly without glaucescence or with the bloom so faint as to be barely perceptible.

* **Vaccinium Brittonii** Porter, sp. nov.

Vaccinium nigrum Britton, Man. 710. 1901. Not *V. nigrum* (Wood) Britton, Mem. Torrey Club 5: 252. 1894.

Low, 1–4 dm. high, from stout horizontal or ascending rootstocks; stems clustered, the branches often fastigiate; bark pale green or violaceous, the shoots white glaucous; branchlets usually with traces of puberulence; leaves numerous, often crowded, oval to elliptic, obtuse or pointed, 1.5–3 cm. long, 7–12 mm. wide, or larger on the season's shoots, pale bluish green and glaucous or glaucescent, often whitened beneath, firm and cartilaginous-serrulate, the venation prominent, especially on the lower surface, glabrous, or puberulent on the midvein on the upper side; corolla cylindric-urceolate, about 6 mm. long; calyx lobes commonly larger and more venose than those of *V. angustifolium;* fruit glaucous at least when young, becoming dark.

Type from Nantucket, Tom Never's swamp, June 13, 1908.

The *Vaccinium pennsylvanicum* var. *nigrum* Wood was described as "Dark green, berries black and shining without bloom" (Bot. and Fl. 199. 1873). The reference is unmistakably to the black-fruited form of *V. angustifolium*, which is not a very uncommon plant and, when in mature fruit, is at sharp contrast with the common blue-fruited form with which it grows. *Vaccinium Brittonii*, which is characteristically pale green and glaucescent, is altogether a different plant. This was seen long ago by the late Doctor Thomas C. Porter, and the name here adopted for it was proposed by him in a letter to Doctor Britton dated Feb. 25, 1891, now preserved in the herbarium of Columbia University. This letter is attached to a sheet bearing two separate collections of the plant, one by Doctor Britton from High Point, Sussex County, New Jersey, May 30, 1891, the other, by Mr. O. A. Farwell, from sand dunes along the shore of Lake Superior in Keweenaw County, Michigan, Aug., 1890. There appears to be no specimen collected by Doctor Porter or designated by him, but his letter is perfectly clear in pointing out the characters that distinguish this blueberry from *V. angustifolium*, which he discusses under the then current name of *V. pennsylvanicum*. On Nantucket *Vaccinium Brittonii* was met with only in Tom Never's swamp where it grows in several places in association with *Cassandra*, *Gaylussacia dumosa*, *Aronia nigra*, and also *Vaccinium angustifolium*. Last flowers June 13, 1908; green glaucous fruit July 2, 1912.

At the Thousand Islands, in 1905, I found it a representative species, particularly on La Rue Island, where it was in fruit late in August. The pale green color of the firm oval leaves and the white glaucous leafy shoots distinguished it strikingly from *V. angustifolium* and *V. canadense*, also common there. The mature fruit although very dark was covered with a faint glaucous bloom.

It seems appropriate here to report an evident hybrid between

V. angustifolium and *V. vacillans* that might readily be mistaken for *V. Brittonii.* It was collected on Long Island, east of Smithtown, Aug. 1, 1908, a single plant growing with an abundance of both the others, and appearing quite intermediate between them except in respect of the fruit, which was very dark, having only the faintest glaucescence. In other respects it differs from *V. Brittonii* in larger and relatively broader leaves of thinner texture, which are elliptic to obovate, mostly 3–3.5 cm. long and 1.5 cm. wide, distinctly pointed, not obviously paler beneath, and closely ciliate-serrulate.

Since this was written I have seen in the herbarium of the New York Botanical Garden a specimen of *Vaccinium Dobbini* Burnham from Jackson, Washington County, New York, (Am. Bot. 12: 8. 1907). It is in all respects the same as the Long Island hybrid and, like the latter, was found growing with both the parent species.

* **Vaccinium atlanticum** sp. nov.

A compact, often rounded shrub, commonly 6–9 dm. high, often close branched and leafy from the base; branches greenish, verrucose-puncticulate, glabrous or minutely crisp-puberulent in lines, branchlets more or less pubescent when young; leaves rather close and numerous, small for a high bush blueberry, 3–5 cm. long, 1–2 cm. wide, or larger on the shoots, oblong- to elliptic-lanceolate, gradually narrowed to base and apex, acute, often attenuate, ciliolate-serrulate, dark green and more or less shining above, paler beneath, the midvein pubescent with spreading hairs, at least towards the base on the lower side, rarely quite glabrous; flowers opening with the unfolding leaves; inflorescence of short racemes clustered towards the ends of the branches or lateral; pedicels slender; corolla broadly cylindraceous to openly urceolate, the widest part often above the middle or towards the throat, angulate, 6–8 mm. long, 4–5 mm. wide, white or pink-tinged, calyx lobes round to triangular and subacute; fruit dark blue, glaucous, becoming 9 mm. in diameter, sweet.

Rather common on Nantucket about the borders of low thickets or in open low grounds. Type, flowering, Millbrook Swamp, May 31, 1909; fruiting, Pocomo, July 11, 1912, deposited in the herbarium of the New York Botanical Garden. Also collected on Chappaquiddick Island, Marthas Vineyard, and at Lake Ronkonkoma, Long Island.

This is perhaps the blueberry reported by Mr. Kenneth K. Mackenzie from New Jersey and Staten Island as *Vaccinium virgatum* Ait. (Torreya 7: 144–145. 1909). Certain New Jersey specimens so named in the herbarium of the New York Botanical Garden agree closely with the Nantucket plant. They do, indeed, convey a suggestion of *V. virgatum*, but I have seen no northern *Vaccinium* that I could deem as at all referable to the plant of the Southern States taken up under Aiton's name, none, for instance that showed the same naked and virgate inflorescence, or the cylindric-conic corolla, or the characteristic brown stipitate glands on the lower surface of the leaf. *Vaccinium atlanticum* is evidently in closer relationship with *V. corymbosum*, differing obviously however by lower stature, more compact habit, and smaller and narrower leaves dark shining green above and ciliolate-serrulate on the margins. In the aspect of this blueberry there is something both of *V. corymbosum* and *V. angustifolium*, and were only a single example known it might well be supposed to be a hybrid of these species. It appears to have, however, a perfectly natural coastwise range of considerable extent, and I have observed nothing in the manner of its occurrence on Nantucket to lead me to believe that it is not in itself a valid species.

It is scarcely probable that this blueberry has not been frequently collected and, if so, it has perhaps been referred to the *V. corymbosum* var. *amoenum* of Gray (*V. amoenum* Ait.), which is described as differing from *V. corymbosum* by bristly ciliate leaves bright green on both sides. I have never met with any high bush blueberry having just such leaves except one herein presently to be described as a possible hybrid between *V. corymbosum* and *V. angustifolium*. But I find no warrant in Aiton's description of his *V. amoenum* for thus understanding the shrub he sought to define, which he denominated the broad-leaved whortleberry and characterized as having leaves pubescent on the veins beneath and only subserrulate. A blueberry having just such leaves is not uncommon. It is an openly branched shrub, mainly of low shaded woodland, the leaves of which are more or less obscurely serrulate or some of them entire and which has claims to recognition, although perhaps passing into the ordinary *V. corymbosum* of more open grounds.

VACCINIUM CORYMBOSUM L.

An abundant shrub, mainly of low grounds, where it mixes with other shrubbery or groups itself into close thickets that form impassable barriers about pools and swampy spots. In full flower May 31, 1909; no flowers left June 5, 1910; first ripe fruit July 4, 1912.

* VACCINIUM ANGUSTIFOLIUM × CORYMBOSUM?

A very distinct appearing blueberry midway in size between the high bush and the low bush series, having bright green serrulate leaves, broadened like those of *V. corymbosum*, with the membranous and lucid character of those of *V. angustifolium*, and further noteworthy by reason of puberulent pedicels and ciliolate calyx lobes.

From 5 to 9 dm. high; leaves ovate to elliptic, acute, mostly 4 cm. long by 2 cm. wide, the largest 5.3 × 2.7 cm., firm and membranous, ciliolate, and bristly serrulate, on both sides bright green and shining, strictly glabrous beneath, the upper face puberulent along the principal veins; branches green, verrucose, puberulent; inflorescence mostly compound, consisting of short racemes or corymbiform clusters along naked terminal branchlets; fruit large, becoming 1 cm. in diameter, depressed-globose, deep blackish blue with a bloom; pedicels mostly curved, about 5 mm. long, crisp-puberulent; calyx lobes tomentulose-ciliolate.

On Coatue, near Third Point, July 13, 1912, a single colony. Specimens deposited in the herbarium of the New York Botanical Garden.

If not a hybrid I do not see how this plant is to be accounted for except as a hitherto unrecognized species. Its membranous leaves bright shining green on both surfaces keep it sharply apart from all of the *corymbosum* series and seem to place it in relationship with *V. angustifolium*, but in size and habit and in breadth of leaf it is more of a high bush blueberry, appearing, indeed, quite intermediate between *V. angustifolium* and *V. corymbosum*. The puberulence of the pedicels is a character not shared with any northern species of the *corymbosum* group, although more or less evident on many examples of *V. angustifolium;* in the latter, also, obscurely ciliolate calyx lobes are sometimes seen.

* VACCINIUM AUSTRALE Small.

V. corymbosum var. *glabrum* A. Gray, Man. ed. 5, 292. 1867.

V. caesariense Mackenzie, Torreya **10**: 230. 1910.

Common in low thickets. In full flower June 1, 1909; June 8, 1910; corolla broadly cylindric, variable in size, becoming 8–9 mm. long and 5–7 mm. wide, sometimes considerably smaller; ripe fruit Aug. 6, 1906, Aug. 9, 1908; berry blue and very glaucous, becoming as large as a half inch in diameter.

The handsomest of our high bush blueberries. In its typical form the thick entire leaves, bright green above and often glaucescent, are whitened on the lower surface, and are wholly glabrous even in vernation, except sometimes for a minute pubescence along the midvein on the upper face. Quite possibly intergrades or hybridizes with *V. corymbosum.*

VACCINIUM ATROCOCCUM (A. Gray) Heller.

Common in the dense thickets of low grounds, often associating with *V. corymbosum.* Last flowers, and young fruit, June 10, 1908; some ripe fruit July 11, 1912.

At Coskaty on Aug. 14, 1906, a form was collected bearing the characteristic dark shining fruit, but with the leaves very acute and more or less serrulate, or some of them entire, thus answering to Michaux's description of his *V. disomorphum.* Bigelow, long ago (Fl. Bost. ed. 2, 151. 1824) correlated this name with the shrub we now call *V. atrococcum*, and it comes out pretty clearly that his judgment was correct, unless a distinction is to be discovered between those shrubs having strictly entire leaves and those with the leaves subserrulate or sometimes entire as Michaux described them. His Latin, "*folia . . . subtus pubentia, interdum integriuscula . . . corolla albido-purpurascens, oblonga, ovoideo-urceolata*" quite definitely excludes *V. corymbosum* as well as all other northern species at present recognized, except *V. atrococcum.*

* **Vaccinium vicinum** sp. nov.

Characterized by a close soft pubescence, similar to that of *V. atrococcum*, and large flowers as well as glaucous fruit, more like that of *V. corymbosum;* the leaves, more or less serrulate, but often entire, are commonly narrower than in either of those species and of marked oblanceolate or obovate-oblong tendency.

An openly branched shrub 1–2 m. or more high; branchlets and young leaves beneath tomentulose-canescent or villoustomentulose with a white pubescence; mature leaves thick; villous-pubescent on the pale lower surface, becoming tawny in age, bright green and shining and usually thinly pubescent on the upper surface, entire or serrulate even on the same branch, firm, oblanceolate, long-tapering to the base and tapering-acute at apex to obovate-oblong or elliptic and acuminate, often 5–6 cm. long by 1.5–2 cm. wide, sometimes oblong-ovate and 2.5 cm. wide; flowers appearing with the leaves, disposed in numerous close clusters along the leafless or leafy terminations of the branches or scattered on lateral branchlets; corolla white, broadly cylindric, 8–10 mm. long, 4–5.5 mm. wide; fruit blue-glaucous, dark beneath the bloom.

Frequent on Nantucket and on Long Island in low grounds. Type from Nantucket, Trot's Swamp, July 3, 1912, young fruit; in flower, near Maxcy's Pond, May 30, 1909; deposited in the herbarium New York Botanical Garden.

It might be thought that this blueberry was a cross between *V. atrococcum* and *V. corymbosum* were it not that the flowers do not show any intermediate character and that the leaves are commonly narrower and more tapering towards base and apex than in either. It is evidently closely related to *V. corymbosum* and approaches *V. fuscatum* Ait. of the Southern States, described as fuscous-pubescent and with entire leaves.

CHIOGENES HISPIDULA (L.) T. & G.

Very local, on the eastern side of the island. Abundant in a sphagnum bog east of Almanac Pond, growing with the small cranberry and the pitcher plant. I have not myself seen it at any other station, but it is said to grow in other sphagnum bogs in the same neighborhood. Berries half grown June 11, 1909.

OXYCOCCUS OXYCOCCOS (L.) MacM.

Locally abundant in cold sphagnum bogs: Long Pond; Hummock Pond; Abrams Point bog; Quaise; Pocomo; Sachacha Pond. Blooms rather earlier than the common cranberry. Just in flower June 2, 1909; June 9, 1911; June 11, 1908; in full flower July 6, 1912.

OXYCOCCUS MACROCARPUS (Ait.) Pers.

One of the abundant native plants of Nantucket, thriving in sandy bogs and on the level shores of fresh water ponds. Now also extensively cultivated, many sandy swamps and acres of low ground having been transformed into cranberry bogs. Just in flower June 17, 1908; in full flower June 15, 1910; July 5, 1912.

A smaller and more delicate form occurs, having narrower linear-oblong leaves, only 5–10 mm. long by 2–3 mm. wide, the inflorescence frequently terminal, and the corolla segments only 5.9 mm. long.